

**Association Nationale pour la Gestion des Aires Protégées
National Association for the Management of Protected Areas**

**National Parks and Reserves--Madagascar's New Model
for Biodiversity Conservation:
Lessons Learned Through Integrated Conservation
and Development Projects (ICDPs)**

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Maps

ACRONYMS

ANGAP	National Association for the Management of Protected Areas (Association Nationale pour la Gestion des Aires Protégées)
CARE	Cooperative for American Relief Everywhere
CI	Conservation International, Inc.
DEF	Department of Water and Forests
DIVB	Department of Information and Biodiversity Valorization
ICDP	Integrated Conservation and Development Projects
M&E	monitoring and evaluation
NEAP	National Environmental Action Plan
NGO	nongovernmental organization
PACT	Private Agencies Cooperating Together
SAVEM	Sustainable Approach for Viable Environment Management
TR&D	Tropical Research and Development, Inc.
UNESCO	United Nations Education, Scientific and Cultural Organization
USAID	United States Agency for International Development
VITA	Volunteers in Technical Assistance
WWF	World Wide Fund for Nature

EXECUTIVE SUMMARY

Worldwide, national parks are generally operated by government ministries with a national parks service. Such federally run services are not the only models for national parks management as evidenced by a number of semi-autonomous organizations proudly filling this role. The past 5 years have seen the development of Madagascar's national parks service which has followed a creative institutional arrangement whereby the state has delegated to the Association Nationale pour la Gestion des Aires Protégées (ANGAP) the management authority of a network of 44 parks and reserves. ANGAP is a not-for-profit association. While much remains to be achieved, this report captures some of the lessons learned through the integrated conservation and development programs (ICDPs) whose coordination led to ANGAP's current mission statement and mandate. Emphasis is given to the need to involve both local communities adjacent to protected areas and the private sector. Policy implications are drawn out.

1.0 INTRODUCTION

Madagascar has never had a federally run national parks service and does not have one today. Five years ago, when the government of Madagascar and donors were preparing for the first National Environmental Action Plan (NEAP), it was decided that Madagascar needed an institution which could efficiently manage a protected area network of national parks and reserves. The area to be protected within this network of parks and reserves represented the apex of the best and most unique of Madagascar biodiversity. Its economic and biodiversity importance far exceeded its size (less than 2% of Madagascar) relative to the rest of Madagascar's remaining patches of forest and wilderness areas.

Worldwide, national parks are generally operated by government ministries with a national parks service. Problems with state management of such resources have become increasingly evident, particularly in the developing countries of Latin America and the Caribbean. It is generally true worldwide that "lack of financial resources has been one of the principal impediments to promoting sustainable development and environmental protection. National funding has failed to provide the needed financial resources for establishing and maintaining protected areas..." (Barzetti, 1993, p.159). Problems include disassociation of park revenues from operating costs - with revenue returning to the national treasury; the inability of federal bureaucracies to compete efficiently with the private sector, leading to increased operation costs and sometimes lack of professionalism; and the inability of park management officials to limit tourist access to a predetermined carrying capacity for specific areas visited. The conservation objective in these cases has frequently become secondary to the commercial and political interests of powerful lobby groups.

The United States Parks Service, created in 1916 and the oldest of its kind, is under increasing pressure to sustain the national parks in their natural state. In some cases it is losing the battle (Mitchell, 1994). The list of ills immediately reminds one of the problems faced by developing nations around the world. For example, Yellowstone, the world's first federally operated national park created in 1872, is in a critical state. One reads of "Yellowstone's dilapidated road system," whose deteriorating sewage system several years ago "contaminated a portion of the celebrated Yellowstone River." Its rangers spend "frigid winters in trailers and uninsulated temporary housing located in an area accessible only by snowmobile" (Forstenzer, 1995, pp.38, 43, 48). It is currently also threatened by a newly proposed mining concession which could create an environmental disaster within park boundaries. Significant populations of Yellowstone's elk and bison are threatened with extermination because of their threat to peripheral zone cattle (brucellosis).

The Parks Service is in the midst of a financial crisis and it is difficult to exaggerate the vast problems that now affect the parks. Many irreplaceable national treasures - spectacular natural areas and historic and cultural sites sheltering some of the country's

most profound symbols - are being threatened or damaged in the absence of funds to protect them adequately (Forstenzer, 1995, p.38).

The U.S. Parks Service is considering changing some of its basic approaches to park management - including how visitor fees are allocated (with a recommendation that they remain with park's programs) and limiting tourist access (Forstenzer, 1995, p.57), but significant resistance to such change exists. Because of long-term concessions granted to private sector operators, large profits are being made at the expense of the parks themselves. These concession interests have become powerful lobby groups pushing their commercial interests at the expense of protection of natural resources owned by the American public. "And many concessionaires, making only minuscule payments to the federal government, take in enormous gross revenues" (Forstenzer, 1995, p.48).

Because many of the problems of federally run national parks services arise from structural/institutional roots, they are very difficult to change. As observed by USAID Madagascar in 1991:

Madagascar lacks a coherent institutional structure for managing its environment, and the institutions that do exist are largely incapable of carrying out their mandates. Responsibility for the environment is fragmented among several ministries which all suffer from inadequate funding, insufficient numbers and poorly trained staff at all levels, lack of information, a history of agricultural policies which have worked as disincentives to conservation, and weak capacity for policy analysis and planning. This is particularly the case for the Department of Water and Forests (DEF)...(TR&D, USAID Contract Document: 1991:8).

Park services of various states in the United States, such as the Arkansas State Parks Service, have been able to avoid some of the more serious problems of the federal system and are being managed in a more effective manner. ANGAP and Madagascar have been in the enviable position of initiating a new system and have the potential to learn from the experience of others. Park management consultants from the U.S.A., South Africa, Canada, and elsewhere have strongly urged ANGAP to become familiar with practices of other countries and evaluate these effects relative to Madagascar's needs.

There are narrations on a federally run national parks service institutional model,¹ including a growing number of semi-autonomous organizations proudly filling this role. Perhaps the best and oldest example of this is the South African National Parks Board. The Karisoke Research Center in Rwanda was, before the recent civil war, considered "one of the brightest conservation stars in Africa"; it had become

Parastatals are considered essentially the same as direct federally run systems. "The experience of parastatal management is mixed, and not conclusively recommended as an approach to park management" (IRG, 1992:51).

“an autonomous, scientific mini-state within the Rwandan borders” (Salopek, 1995, p.80). In the Bahamas, a National Trust has statutory authority for parks. National parks are managed by a nongovernmental organization (NGO), the Conservation and Development Trust, in Jamaica.² The Philippines are initiating a pilot action of this kind as well.

The diverse array of institutions that are beginning to assume management responsibilities (of parks) include regional and local governments, universities, private land owners, rural communities, NGOs, private businesses and cooperatives (Barzetti, 1993, p.85).

The South African National Parks Board, with its network of national parks, was created by an act of Parliament in 1976. Parliament sanctions the appointment of the board of directors through the designated Minister (currently Minister of Environmental Affairs and of Tourism). The minister has an oversight, non-executive, relationship to the Board. The recently reconstituted board appoints the chief executive, who is directly responsible to the board, for the control, management, and maintenance of national parks. A key concept is that the Board retains full and effective control of the organization, but the management of the organization passes through the Chief Executive and his directors (National Parks Act and annexes, 1976). The National Parks Board network is reportedly about 80% financially self-sufficient, receiving 20% of its budget from the State, with Krueger National Park serving as the flagship of the system. The South African State’s subsidy is not enough for “the board to carry out its nature conservation activities”; the balance is generated through “tourism-related businesses” (Havenga, 1994, p.16). While holding conservation as its most important mandate, near self-sufficiency is a close second. Total self-sufficiency, though potentially attainable (Botha, personal communication³), is not considered desirable. Parks Board employees do not consider themselves State employees. Its board of directors, by law, cannot be filled by any serving government official. (Dr. G.A. Robinson, personal communication, November 1994).⁴ The Parks Board considers it a matter of principal that the State should contribute at least a portion of the management costs incurred for the conservation of these protected areas on behalf of the public trust. ANGAP has organizational similarities to the South African Parks Board model, with its legal status as a not-for-profit private association managing national parks and reserves on behalf of the people of Madagascar, by delegation of the State.

Unfortunately a parastatal, the National Resource and Conservation Association, with oversight authority, is currently trying to take over direct management.

Mr. Botha, Director of Administration, National Parks Board, during week long support visit to ANGAP, August 28 - September 1, 1995.

Dr. G.A. Robinson, Executive Director, National Parks Board, during ANGAP support visit to Madagascar, December 4-7 1994. Created in 1898, Kruger National Park is South Africa’s oldest national park, and Africa’s largest (2 million hectares). It was created following an inspiring visit by a South African leader to Yellowstone National Park. Managed by the National Parks Board, Kruger, as well as many of South Africa’s other national parks, is a world leader in advanced environmental management techniques and policies.

ANGAP's approach to the private sector and local communities in the peripheral zones of parks is still evolving. Until 1990, all forest lands in Madagascar were managed by DEF, under the Minister of State for Agriculture and Rural Development. Madagascar adopted in 1968 the various IUCN categories for protected areas. However, Malagasy officials have always seen protected areas as places to protect, places to keep people out of, to conserve. Malagasy laws are more restrictive than IUCN worldwide guidelines require - in spite of the fact that Madagascar lacks the economic ability to implement and enforce them. Such laws, once in place, are difficult to change, even if dysfunctional. The creation of ANGAP showed increasing national resolve to protect parks and reserves in a more sustainable manner.

During 1988-1989 the government of Madagascar, with international donor support, prepared a NEAP of three phases of 5 years each (Larson, 1994). Environmental Program 1 (EP-1) started in 1990. Key elements for the strategy included delegating to those responsible for managing the protected areas the authority needed for such management and giving them the means to do so. An early step taken by donors in 1989, in preparing EP-1, was to study the most appropriate legal statute for the new organization which would manage Madagascar's biodiversity in the national parks and reserves. Cited reasons for the need to create such an organization included the need for "the development of activities linked to tourists visiting parks and reserves (food services, lodging, guides, various products" (Louis Berger, 1989, p.1). This center would need to have "great autonomy (from the government) for management" (Louis Berger, 1989: 1). And again,

If tourism is to develop into something important in a brief period of time, and if one is to suppose that much of this tourism will be oriented towards nature tourism, then it is necessary to foresee the need for specific new regulations for those sites where tourism has a potential so as to assure a maximum of protection without hindering operators and their clients (Louis Berger, 1989:6).

The cited study outlined four major missions which such an organization should undertake⁵ and concluded, after evaluating the various kinds of legal entities [government department, office, various for-profit organizations, private nonprofit organizations, associations (Louis Berger, 1989:24)], that the status of association was the most appropriate for accomplishing the tasks proposed for sustainably managing protected areas. While many of the direct recommendations of this 1989 study were not acted on at the time, the resulting organization that was created, ANGAP, was an association.

Mission 1: The center is charged with the protection and the management of the network of protected areas (land, shoreline, marine); Mission 2: The responsibilities of the center extend to include rural development activities within the peripheral zones of the protected areas; Mission 3: The center will have for its mission to open protected areas to ecological tourism to encourage the benefits of tourist activities for the local populations (employment, sales of products) within the limits compatible for biodiversity protection; and Mission 4: The center must promote scientific monitoring of the biodiversity situation within the protected areas (Louis Berger, 1989:15-18).

The USAID-financed Sustainable Approach for Viable Environment Management (SAVEM) project had two basic strategies, or approaches. To establish sustainable institutions, support was given to create “*the National Association for the Management of Protected Areas (ANGAP), to coordinate and manage protected areas and the peripheral zones*” (SAVEM Project Document, 1991, pp. 1-2). For the first strategy, Tropical Research and Development, Inc. (TR&D) was awarded the USAID SAVEM contract to provide the institutional support to ANGAP. The second strategy “*will test the hypothesis that the local population will alter their behavior from destruction to conservation of their environment if they see a relationship between their economic and social well-being to the conserved area, and if they are empowered to make the right decision*” (SAVEM Project Document, 1991, p. 2). To achieve this, SAVEM would “*award up to six Protected Area Development Grants (PADG) to local and international NGOs for more limited, locally initiated interventions in the peripheral zones adjacent to any of Madagascar’s ...protected areas*” (SAVEM Project Document, 1991, p. 2). Private Agencies Cooperating Together (PACT) was given the USAID SAVEM contract to administer the grants to the six SAVEM ICDPs, eventually awarded to five American-based international NGOs [Cooperative for American Relief Everywhere (CARE), Conservation International, Inc. (CI), World Wide Fund for Nature (WWF), and Volunteers in Technical Assistance (VITA)] and one American university (Stony Brook), with a seventh, Isalo, awarded directly to ANGAP in 1996. Eight other ICDPs received funding from other donors [German, Dutch, Norwegian, the United Nations Education, Scientific and Cultural Organization (UNESCO), WWF, and others]. ICDPs were intended to be coordinated and (eventually) managed by ANGAP as it was recognized that “*the ad hoc designation of various international NGOs to manage protected areas could not continue indefinitely,*” and “*DEF proposed the creation of a flexible agency capable of coordinating NGOs, ensuring the integration of conservation and development, and eventually replacing foreign operators.*”

ANGAP was the primary national institution being built within the USAID SAVEM project during Environmental Program 1. As the institution directly mandated to coordinate Madagascar ICDPs and protected area programs, it also became the logical home for a program-wide monitoring and information system. Throughout Environmental Program 1, TR&D has been the primary contractor responsible for ANGAP’s institutional development, with most current ANGAP central staff paid, trained, and equipped through USAID funds channeled through TR&D. The collaboration between ANGAP and TR&D has always placed TR&D staff firmly in a support role to the association.

In its first years, ANGAP was given coordination responsibility for a system of 39 designated national parks, strict natural reserves, special reserves - without any direct field management or direct control of the operating funds with which operators were to manage these protected areas⁶ (see Table 1). Also

According to the USAID SAVEM project document, ANGAP’s coordination role “may be expanded to management of the protected areas based on demonstrated capabilities of ANGAP”.....ANGAP’s possible future capacity to

included was one World Heritage site (*Tsingi* of Bemaraha). These 39 protected areas represented only a fraction of the total forest resources of the country found under the direct management of DEF. No need for a national parks system was envisioned. It was assumed that international NGO operators would be able to manage the protected areas, under coordination from ANGAP.

As part of Madagascar's national policy for the gradual disengagement of the State and giving greater responsibility to the private sector, ANGAP received the statute of an association (Ordonnance #60-133, 1960), a statutory body delegated by the State to manage parks and reserves in the public interest, and to put into place the State's policy for the management of biodiversity and into operation a strategy for the conservation and development of protected areas. ANGAP can generate revenue for its operational expenses but cannot distribute profits to its individual members. The highest authority of this association is the National Assembly, followed by its Administrative Council or Board, and then the Director General of ANGAP. The founding member organizations, who send a representative to sit on the present Board, represent a balance between the public and private sectors. These include representatives from seven government ministries concerned with environmental issues, and six representatives from national and international NGOs.⁷

According to Article 2 of its statutes, ANGAP enjoys administrative and financial autonomy from the State. ANGAP, under the Environmental Program legislation and through delegation by the Malagasy State, has as its mission the coordination and execution of the government's policies concerning the protected areas. For Phase 1 (1991-1996), the initial strategy was for ANGAP to delegate implementation responsibility of ICDP field programs to various NGO operators. This led, for example, to the conservation-oriented WWF being named as principal operator for the Amber Mountain complex, supported by the development operator CARE.

Major themes developed for ICDP protected area programs stressed the need for conservation and development to be linked through ICDP projects and for peripheral zone populations to be closely implicated in the process of protecting these national treasures. Without their economic interests linked to the preservation of these protected areas, it is difficult to foresee sustainable conservation taking place. This was to be development for conservation. The USAID-funded

manage protected areas directly will be reviewed during a joint AID/GRM midterm evaluation of the SAVEM project during FY 1994. (SAVEM project document, 1990, Section III, C.1). The midterm evaluation (June 1994) confirmed the excellent institutional progress of ANGAP. The statement was made that ANGAP was following "its natural evolution towards its self-defined long-term vision of becoming Madagascar's national parks service." Efforts are underway to decrease the number of public officials to four and increase the role played by regional and influential private sector individuals.

Table 1

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SAVEM project was specifically seen as an experiment to learn how best to develop the ICDP concept in Madagascar, including hypothesis testing of development-conservation links.

2.0 ANGAP INSTITUTIONAL DEVELOPMENT MILESTONES

At the eve of the next 5-year phase of the Environmental Program (Environmental Program 2, 1997-2001), it is useful to consider the dramatic evolution of ANGAP into what is considered by many an emerging center of excellence and innovation for the environmental program overall. Some of the milestones leading to this development are noted in the following sections.

2.1 Major Donor and Government of Madagascar Support

A major Government of Madagascar reform led to the creation of ANGAP on June 18, 1990. The “G” (*gestion*)⁸ in the name ANGAP suggests that its creators anticipated a management role for the new institution - not simply coordination. The purpose of ANGAP, cited in Madagascar’s signed agreement with the World Bank May 1, 1990 (Credit # 2125) MAG), was to “execute parts A1, A2, A4, and A6 of the Environmental Program...”(1990, p.6). Article A1 of this agreement states that ANGAP is

to establish and equip a network of about 50 protected areas, including the construction and renovation of small infrastructure, coordination of the development activities in the peripheral zones, and training, including training outside the country for ANGAP personnel. ANGAP is charged to coordinate the implementation of articles A1, A2, A4, and A6 of the project. ANGAP will choose national or international operators with whom it will sign contracts to establish detailed conservation plans and infrastructure development within protected areas and to implement these.

2.2 ANGAP Receives Authority over Investments, Income, Operating Costs, Parks Infrastructure

On December 4, 1991, an inter-ministerial decree (#91:593) was announced in which numerous key provisions were given to ANGAP by the State. The last paragraph of Article 1 states,

the rights (park entrance fees) to visit the Integrated Natural Reserves, the National Parks, the Special Reserves, and the World Heritage Site, and the royalties generated from the management (*gestion*) of the protected areas will be held and managed (*gestion*) by ANGAP.

Association Nationale pour la Gestion des Aires Protegees (ANGAP). “*Gestion*” in French refers to direct management.

This is the first time that any Madagascar government decree specifically stated ANGAP's duties in terms of management of protected areas, as opposed to coordination.

Article 6 states that "ANGAP manages (*gestion*) directly its own investments and operational costs, and assures the monitoring of the direct allocations of donor funding to field operators." Article 7 describes four areas of financial resources to support ANGAP's program: (1) contributions of the State, (2) contributions of donors, (3) protected area entrance fees and royalties generated by the management of the protected areas, and (4) various other diverse receipts resulting from other ANGAP activities (e.g., membership fees, interest of banked deposits). Article 12 states that "all infrastructure and buildings existing within the protected areas will be progressively, and in any case, before the end of the Environmental Program 1 (i.e., 1996), managed (*gestion*) by ANGAP. Such infrastructure can be given by ANGAP for use by field operators within the context of established procedures of control."

The issue of ownership of tourist infrastructure was much debated during 1995 between ANGAP and its donors (USAID and World Bank in particular). Professional consultants recommended that such infrastructure should not be managed by a government ministry; parastatals are essentially no different. "All too often governments ... feel compelled to provide for lodging and occasionally restaurants. With the possible exception of facilities within parks, most government-owned and operated facilities are money losers, providing second rate service, and should be avoided" (Rutherford, 1995, p.58). In terms of tourist infrastructure, ANGAP was considered by USAID and World Bank as more government than private, therefore subject to the observations previously mentioned.

ANGAP is in the process of obtaining and controlling service zones in or near parks in which special areas may be designated as construction sites for tourist infrastructure (e.g., lodges) built and managed by the private sector under strict concession agreements. Greater profits could potentially be realized by ANGAP should a donor choose to give funds to construct such infrastructure, but conditions would have to state that it would be managed by the private sector (Davies, 1996).

The conservation objective of Madagascar national parks and reserves will not be attained unless a significant share of operating costs can be secured through sustainable sources of financial support. By improving the quality and quantity of the experience park visitors will have, ANGAP will be able to significantly increase its resources through entrance fees, concession fees, providing in-park services and paying circuits. A trust fund with offshore investment possibilities is also being explored.

2.3 Various Protected Areas Transferred to ANGAP Management

By April 1992, all national parks, integrated natural reserves, and special reserves had been transferred for ANGAP's total coordination (total of 39). In 1996, this number has reached 44 protected areas, with six under direct management control (see Table 1).

2.4 Clarification of Roles Between ANGAP and DEF

November 3, 1992, the Ministry of State for Agriculture and Rural Development formally delegated to ANGAP the authority for the coordination of national parks, special reserves, and integrated special reserves. These parks and reserves were previously under the direct management control of DEF. DEF would continue to manage forest protected resources other than the parks and reserves. It would continue to be responsible for the creation of new protected areas but would do so with the direct assistance of ANGAP.

A problem remained in that only the DEF has sanction authority for infractions within the protected areas. Experience has shown that without enforcement power, it is almost impossible to manage these protected areas - and existing DEF enforcement does not work very well. In November, 1996, as part of the Government of Madagascar and donor agreements in Paris for Environmental Program 2, ANGAP will be permitted to become involved in some levels of direct enforcement - yet to be determined. Furthermore, ANGAP will no longer be under the DEF or its Ministry. Oversight of ANGAP has been transferred to the Ministry of the Environment. Such oversight does not extend to any involvement in executive functions or implementation.

2.5 System-Wide Monitoring and Evaluation System Established

By early 1994, a system-wide socioeconomic and ecological monitoring system had been established with the field operators to assess program development and impact over the coming years (Swanson, 1994).

The experience with these conservation and development projects, including systematic data gathering, monitoring and evaluation, will determine the success of (Madagascar's) NEAP activities in improving knowledge of the underlying causes of key environmental problems (Larson, 1994:684).

Indicators of different kinds have been developed to assess institutional progress/processes at both central and field levels. Baseline spatial data sets and procedures were recommended for program planning and management purposes. A system for assessing impact of priority ICDP activities on program objectives among a sample of households was implemented. These socioeconomic impact

studies have been the slowest to be implemented in the program. While many of the institutional process indicators are now being reported, it was not until the end of 1995 that spatial data sets and household level surveys were in place for impact study baselines. Achievement of this has required operators to assign specific field staff to directly interact with the relevant ANGAP Department of Information and Biodiversity Valorization (DIVB) technical support division.

By the end of 1994, ANGAP's DIVB information department had begun to play an increasingly active role in environmental information management - establishing an open, participatory approach with all interested partners. By 1996, this information system, with its spatial data sets, had become the best and most accessible information system on biodiversity and the environment in Madagascar. It has helped to provide the information needed for prioritization of future applied biodiversity research (e.g., Map 1: Priority Zones for Conservation Activities and Research), and is playing a key role in assisting national and international institutions in data analysis for the next phase of the environmental action plan. This ANGAP department has assisted field ICDP programs to initiate data gathering for the spatial impact monitoring of the monitoring and evaluation (M&E) system. Spatial monitoring baseline data now exist for protected areas, their peripheral zones, and for three or four target zones (e.g., Map 2: Ranomafana National Park). These data are in place for the six principal parks, with activities in progress to expand this to the entire network of parks and reserves. Results of this monitoring have already shown the dramatic loss in biodiversity over the past decades - particularly in the peripheral zones of protected areas (see Map 3: Vegetative Cover Evolution, Target Zone Vohibazaha). Low-cost videographic aerial photography is being used to update impact studies on targeted zones both within parks and reserves and their peripheral zones.

This monitoring information system, the increasingly significant data bases linked to it, and the trained central and (future) field level staff could be one the most important contributions ANGAP will provide to regional partners of the Environmental Program 2 regional program approach over the next 5 years. The integrated data sets provide easily accessed information for use by managers for making decisions about human and biological resources.

2.6 Long-Term Vision Documented

A series of workshops and internal strategic meetings led in October 1994 to a Long-Term Vision for the Protected Areas Program (Hagen, 1994), in which ANGAP's evolution towards a national park program was outlined. The October 1994 Madagascar Environmental Action Program Steering Committee annual meeting made the recommendation to clarify ANGAP's role in terms of management of protected areas. They recommended:

the reinforcement of ANGAP's mandate towards being made totally responsible for the management of protected areas, in such a way as to permit it to apply, either indirectly

through an operator or directly (itself) a (park) management plan and the management of each protected area (COS Report No.1, October 1994, p.10). Related to this was the recommendation for the progressive transfer of operational management of development activities in the peripheral zones by international NGOs towards national NGOs (Hagen, 1994).

2.7 System and Parks Level Technical Assistance Begins

ANGAP initiated its first professional park studies between November 1994 to March 1995 through visits and planning with Antoine Cloutier of Quebec Parks, Canada; Jay Miller of State Parks Service of Arkansas; James McGregor of Canada, and Dr. G.A. Robinson, Executive Director, National Parks Board of South Africa. Initially, they helped to evaluate ANGAP and the protected area's accomplishments towards development of park management plans in the priority parks (Andasibe, Isalo, Amber Mountain/Ankarana, Ranomafana). Steps were outlined for ANGAP to move toward assuming a role as Madagascar's national parks service. ANGAP's institutional structure was reviewed and a new organigram proposed. These consultants worked closely with each of the priority park operators in this effort. Mr. Grenfel of Ranomafana National Park, with team assistance, led in providing ANGAP with an illustrative table of contents of what a park management plan should include. Completed during 1995, the Ranomafana National Park Management Plan has become a key reference document for establishment of national park and reserve management plans throughout the system. Long-term parks planning assistance began with the arrival in January 1996 of Mr. Roger Collinson, who brought with him broad experience in parks programs in South Africa.

2.8 ANGAP Begins Direct Management of Three Protected Areas (January 1995)

With initial World Bank funding, ANGAP began in 1995 to directly manage three protected areas. Two of these are small (Lokobe, Manombo), one large (Isalo National Park). In early 1996, Isalo became the seventh protected area supported by the USAID funded SAVEM project, through receipt of a grant of about \$250,000. This was supplemented by another \$400,000 from the World Bank. In this case, ANGAP is the principal operator, supported by interested partners (South Africa National Parks Board, Landel Mills, Peace Corps, ANAE). An ANGAP feasibility study, based on planned activities and revenue generation, suggests that Isalo National Park could be financially sustainable by 1998. If realized, Isalo would be the first protected area to begin generating revenue for the rest of the park network. This is the formula desired by ANGAP for next phase donor funding, so experience gained here will be critical.

2.9 South Africa's National Parks Board: ANGAP's first Sister Parks System

At the invitation of the South Africa National Parks Board, the ANGAP Director General and ANGAP's TR&D principal technical advisor, in April 1995, visited seven South African national parks, discussing ways to collaborate and gain from the park management expertise developed in South Africa. The quality of services provided by the South African National Parks Board and the professionalism evident among employees in the various national parks visited was solid confirmation of the Park Board's standards of excellence and dedication to the conservation objective described in their own mission statement. Here sustainability has been a watchword for many years; conservation must help pay for itself.

ANGAP's Board of Directors agreed, in April 1995, to formally pursue a sister parks relationship with South Africa's National Parks Board, whereby both institutions identified areas of benefits to their respective programs. ANGAP believes South Africa will become an important partner in the years to come, given its willingness to collaborate, its geographic location, and the growing interest of South African tourists in this country.

The South African Parks Board and ANGAP in 1995 and 1996 were very active in building the sister parks relationship, evidenced by an intensive support program from the Parks Board to ANGAP and its parks and reserves. During this time, technical onsite support was provided by Dr. G.A. Robinson, Executive Director of the South African National Parks Board; Dr. Anthony Hall-Martin, Director of Research and Development; Mr. Herman Botha, Director of Administration; and Mr. Klasie Havenga, Director of Finance. Seven ANGAP Tana staff and 10 field park managers have also received training of between 2-12 weeks in various park programs in South Africa during this time.

2.10 Park Entrance Fees

For lack of clarity in the intent of the inter-ministerial decree of the Government of Madagascar (Dec. 4, 1991), ANGAP has hesitated to act to modify park entrance fees in place at the time it took over management of the parks and reserves. It was not certain of its prerogatives in this area. This became a real issue during 1994 when the Malagasy franc lost more than half its value against foreign currencies - reducing drastically the revenue collected by tourist visitors, fees for filming in the parks, and research fees. A legal study completed in July 1995 by Orgasys confirmed that ANGAP not only has always had the privilege but also the duty to manage fees structures. This is part of their delegated duties of managing the parks and reserves.

ANGAP has both the right and duty to fix variable entrance fees, with consideration of the real value of each protected area, to acquire the funding needed to assist in the financial sustainability of protecting these natural resources.....ANGAP must also occupy itself with realizing the financial benefits from filming and research fees... (Orgasys, 1995, p.22,23).

In spite of this legal advice, when a new fee structure was placed before ANGAP's board, its chairman (Director of DEF from which ANGAP was delegated its authority over parks) declared that no one but DEF could revise fees. This action by DEF highlighted the need for clear power delegation to ANGAP of several essential management tools.

On May 8, 1996, a government decree (#96-366) gave ANGAP the right to both manage and set park entrance fees as it sees fit. The key article #1 reads:

Entrance fees for visiting strict natural reserves, the national parks, the special reserves, and the world heritage protected areas, and the royalties generated by the management of these protected areas will be fixed, collected, and managed by the National Association for the Management of Protected Areas (ANGAP).

Following ANGAP's Board meeting on August 12, 1996, the Board, through its President, also the Minister of the Environment, officially communicated a modified park entrance fee structure for the protected area program effective September 1, 1997, permitting private sector partners to prepare for this change in their marketing strategies (ANGAP Decision #038: October 14, 1995). New fees for researchers, royalties, and professional filming become effective January 1, 1997. The following outlines the major changes.

Adults:	Since 1989	New
Expatriate non-resident ⁹	20,000	50,000
Expatriate resident	15,000	35,000
Malagasy	1,000	2,500
Expatriate researchers	50,000	125,000
Other researchers	50,000	125,000
Non-ANGAP guides	-	2,500
Professional Filming per site ¹⁰	-	500,000
Right to Film (Professional)	-	negotiate

(Note: 1989: 1530 fmg. = \$1.00; October 1996: 4,100 fmg. = \$1.00. Source: BMOI Tana)

Research fees are good for 3 months. Malagasy researchers without outside funding, but working in partnership with ANGAP on themes of common interest, enter without cost. While there are minimum charges for children (2,500 fmg. for expatriates, 250 fmg. for nationals), these fees are waived when part of ANGAP-sponsored programs in environmental education, called *classe verte*.

Entrance fees for adults and children good for 3 days.

This is valid for 15 days per site and represents the permit to enter the reserve, not the permit to film.

3.0 ANGAP'S MISSION STATEMENT

The need for a clear statement of mission became evident last year. In its 1995 strategic planning workshop, September 3-10, where strategy was laid out for ANGAP's Environmental Program 2 program proposal, a clear mission statement was articulated. ANGAP's mission is:

To establish, conserve, and manage in a sustainable manner a network of National Parks and Reserves representative of the biological diversity and the natural environment unique to Madagascar. These Protected Areas, source of national pride for both present and future generations, should be places of preservation, education, recreation, and contribute to the development of peripheral zone communities and to regional and national economies.

Based on this commitment, ANGAP senior staff analyzed the different functions that the parks system would need to carry out this mission. These functions led to outlining priority activities to be initiated and sustained by the program, and the nature of the organizational structure (functional organigram) required to implement this. Environmental Program 2 donors and the Madagascar government found ANGAP's vision of the future coherent and engaging. On September 16-20, 1996, at a review in Paris of the second 5-year phase of the Madagascar environmental action plan (NEAP), between the Malagasy government and multilateral and bilateral donors, the donors gave promises of full funding for the program proposed by ANGAP. The Government of Madagascar has also made its commitment to provide the legislative policies needed to move the program forward - officially recognizing, for the first time, a private institution managing its parks and reserves.

3.1 New Organizational Structure for ANGAP

ANGAP has revised its organizational structure during the past year, articulated new functions, and redefined departments more in line with its new role as a national park institution. The organigram on the next page represents the results of this long-term review, ending with direct input by Mr. Botha, Parks Board Director of Administration, and following ANGAP's strategic planning workshop of September 1995. The plan was included in ANGAP's program plan document for Environmental Program 2. Internally, ANGAP is positioning itself along these lines.

A number of special features of this organigram should be pointed out.

- C It is intended to lead to as flat an organization as possible - with a great deal of delegation of authority to the National Park and Reserve park directors (park managers).

- C The Director General of ANGAP will have primary responsibility for leading the organization and in outward contacts with the Malagasy general public and political world, with donors.
- C There will be two operational line divisions: one for park conservation and management, the other for tourism development and marketing. The directors of both of these divisions will be field oriented and have as principal functions to support and guide the field park directors. Professional parks and tourism advisors have been recommended for both line divisions at the central level. The department for conservation management will hold hierarchy authority over park directors and be concerned with all areas outside the tourist service zones of parks and reserves. The department of tourism will have a functional technical guidance role of all tourist services provided within the service zones of protected areas. Other ANGAP departments are to become more service oriented for the field parks and reserves and will not hold hierarchy authority over park directors.
- C The development coordinator for each national park and reserve will be a permanent, senior position, to coordinate park activities as they touch or are influenced by the peripheral zone. This person will deal directly with peripheral zone village committees and development NGOs and others working in the area and act as the principal conduit of information/support between park and peripheral zone populations. This person will handle park entrance fee distribution for microprojects.
- C Environmental education and ecotourism development activities will be attached to the field ecotourism unit.

3.2 ANGAP's Future Institutional Role

For ANGAP to fulfill its role as a national parks and reserves institution, its mission must be more clearly understood at the highest levels of government. It is a private association which has been delegated, on behalf of the State, to coordinate and manage,¹¹ the protected areas under its jurisdiction. Dr. Robinson, Executive Director of National Parks Board of South Africa, stated that "the national parks service of Madagascar should be an instrument created by statute to perform on behalf of the State a function in which the State has a direct interest" (Robinson, 1994: 4). ANGAP actually has much of this authority today.

The currently most highly authorized decree by the Government of Madagascar, concerning ANGAP, through signature of the Prime Minister and four Ministers, of April 12, 1991 (decree No. 91.593) clearly speaks of ANGAP management (gestion) duties (see above).

This role of ANGAP is in the process of being reconfirmed during current Environmental Program 2 planning at the highest levels of government, and will be ratified by the National Assembly. Several key proposals were put forth by the Malagasy delegation to the September 1996 Environmental Program 2 donor meetings in Paris which show the commitment needed to move ahead. Recommendations were made to modify the existing Madagascar Charter for the Environment, authorized by the National Parliament in December 21, 1990. Initial proposals to be placed before the Parliament through the provisions of a Environmental Program 2 Program Law for the Environment which would be a condition precedent to initial disbursement of funds. Draft recommendations include:

The management of the network of terrestrial, coast line, and aquatic, and marine protected areas can be confided to a private, autonomous, national institution, recognized as a public utility under existing legislation, and will be placed under the jurisdiction of the Ministry responsible for the Environment. (Article 8, Chapter 2, of Projet de Loi De Programme, Condition de negociation du Programme Environnemental II: Paris, November 1996:4).

What is new here is the inclusion of coast line, aquatic, and marine areas of biodiversity which are not yet officially within the protected areas network. Some sectors of the government wanted these to be managed by a new government institution. The argument which won the case was that a network of protected areas of Madagascar must include samples of all forms of biodiversity and geography. The draft proposal for the special legislation reads:

The Government commits itself to redefine the mandates of some institutions, as well as the instruments needed for their implementation.The mission of the private organization charged with the management of the network of protected areas will be redefined to permit improved results. The management of the Protected Areas is hereby given to ANGAP which has evolved from its coordinating mission to that of strategic and operational manager for improved conservation of these natural ecosystems. In the context of this management, the Government, in concert with ANGAP, will take all legislative and regulatory steps necessary to permit ANGAP to contribute to the management of sanctions within the protected areas, and to put into place management plans for the network. (Declaration de Politique Sectorielle, Paris, 1996:4).

ANGAP has been asked to develop the text needed for a Parks Act which will define in greater detail all the roles and responsibilities of the institution. ANGAP seeks recognition as the sole authority for developing ecotourism within national parks and reserves. ANGAP should not be reabsorbed into a government ministry or become a parastatal organization. We believe the current institutional structure

is Madagascar's best guarantee of continued international donor interest in support to the protected area program.

This option is also the best option available for vigorous, flexible, and dynamic management of a Parks program. The 53 ANGAP employees in Astanarive enjoy good salaries and benefits and share a genuine commitment to the environment. There is an eagerness to learn, experiment, and a willingness to put in very long hours. Only 4 of the 30 professional staff of ANGAP came from the Government of Madagascar's DEF, and none has any interest in returning to a government position. Any suggested move of ANGAP management of protected areas back into the fold of central government control should be strongly discouraged by donors - to the extent of removing funding support to the program.

3.3 Sanctions

ANGAP will not be able to effectively manage its network of parks and reserves without the authority to administer at least limited sanctions (as simple as giving a fine, to be paid at the ANGAP park office). ANGAP's park rangers must have the authority to retain people causing infractions, to be turned over to the proper authorities. It would be highly desirable for ANGAP to be able to issue limited fines, the revenue of which would remain with the park to help fund costs of surveillance. As seen in the proposed new legislation mentioned previously, ANGAP has been able to make its case to the government, which appears prepared to at least permit ANGAP to contribute to this effort. We believe this contribution should minimally include issuing of limited fines for littering, defacing property, unauthorized penetration into park, individual tree cutting, etc.

3.4 Transition

Beginning in 1995, ANGAP took a more directional role vis-a-vis its ICDP field operators in terms of the development of park management plans, park infrastructure development plans, and ecotourism, including services within park and peripheral zones. ANGAP has been active in providing tourist guide training to all parks and reserves with visiting tourists. An accelerated program of onsite park management and operations has begun with Isalo National Park; efforts are also planned for three other priority parks: Ranomafana, Andasibe, and Amber Mountain. ANGAP also expects to give special parks management planning support to Masoala, Lokobe, and possibly Bemaraha - with the assistance of outside technical expertise.

An 18-month transition period, beginning January 1, 1997, has been put into place by USAID to move from the Environmental Program 1 SAVEM/KEPEM project mode of support to the Madagascar environmental program to the Environmental Program 2 regional program approach. The six USAID-funded SAVEM ICDPs will move into new institutional relationship. In this transition, ICDPs will end June 30, 1997, and ANGAP will take over direct management of these parks and reserves. The

development component of these programs will be passed to other, yet unidentified, regional partner institutions. Early indications suggest that this transition period will be rocky and that not enough thought may have been put into the impact on ANGAP or the effect on local communities and employees involved in the NGO-managed ICDPs. The perception at the end of Environmental Program 1 was that so much assistance had been given to the protected area program during Environmental Program 1 and that ANGAP in particular had succeeded so far beyond the other executing agencies of the Environmental Program 1 program, that Environmental Program 2 will need to redress this situation. Less support will be given to ANGAP and the protected area program and greater support to other executing programs. In doing this, donors, and USAID in particular, will most likely see significant program deterioration at ANGAP and within the field programs of protected areas and their peripheral zones. There is a real danger that Environmental Program 2 will not in fact build on the costly lessons of Environmental Program 1, but will head off into new and untested waters - leaving behind an insufficiently supported new parks institution dealing with major problems left by departing NGO operators. We strongly recommend continued strong support for ANGAP as it grows and assumes significant new responsibilities.

3.5 Park Signs, Uniforms, Logos, and other Publicity

1996 has seen great improvement in the establishment of common park signs and trail guides, and in general tourist information centers. Four park interpretation centers are in the process of development in the four priority parks of Isalo, Ranomafana, Andasibe/Mantadia, and the Ankarana. These parks have also developed park logos, which have been applied to a new ANGAP series of publicity pamphlets for these parks. ANGAP has developed its own parks network logo to replace the ICDP logo in use since 1993. A common uniform for park personnel was agreed on in 1995. ANGAP Antananarivo staff set the example, in October 1995, by being the first to wear this.

ANGAP has also developed, in Tana, a special office for selling park entrance fees and various products. Six income-generating national parks and reserves posters were completed in June 1995 and have been for sale. A high quality 1996/1997 calendar was completed and on the market at the beginning of October 1995. A promotional video (French, English, Malagasy) of the four priority parks has also been completed and was on sale in 1996. Each park has a 9-10 minute presentation on this video.

4.0 LESSONS LEARNED WITH ICDPs IN CONTEXT OF CONSERVING NATIONAL PARKS AND RESERVES

Results of the ICDPs of the past few years in Madagascar have brought forward certain questions for review. The purpose of this section is to look at results, ascertain if hypotheses were correct, and derive lessons from the experience.

At the initiation of activities under SAVEM, it would have been useful to include a component for establishing baseline data and determining indicators for the hypothesis being tested.¹²

The basic problem with the ICDP's concept during the past several years in Madagascar has always been the lack of definition of what development we were talking about. How are we defining conservation? Who should be responsible for this development and conservation? What national institution (government or private) is expected to continue ICDP activities initiated? Which activities do we believe will lead to results denied? Are the activities sustainable? Who are the people of the peripheral zone? Are they those people most immediately responsible for the pressures on the protected areas, or are they everyone in the region and the nation?

Based on experience gained in the past several years, the following paragraphs give responses to some of these questions.

4.1 The Clarification of CORE Concepts

For the protected area program in Madagascar, several spatial designations have become important.

4.1.1 The Park or Protected Areas

ANGAP has designated three categories of protected areas (see Table 1).

- C Category A:** All those national parks and reserves with revenue-generating potential through development of ecotourism.
- C Category B:** All those parks and reserves without significant ecotourism potential, but nevertheless under significant pressures from local peripheral zone populations on park natural resources. Some targeted peripheral zone development activity will need to be

Many ICDPs had only actually begun field implementation of many of their activities starting early 1994. While it is not realistic to expect much impact in terms of changed behavior from program activities, many other lessons can be drawn from the past 2 years' experience.

encouraged, along with proper conservation surveillance and supportive infrastructure. ANGAP has divided category B parks into two subcategories based on whether they will be under direct ANGAP management in Environmental Program 2.

- C **Category C:** All those parks and reserves with neither significant ecotourism potential, nor under significant pressures from local peripheral zone populations on park natural resources. A limited conservation surveillance infrastructure and presence is required.

4.1.2 The Protected Area

This should be zoned as part of the park or reserve management plan to include areas of total protection, areas of limited access (for research or tourism), and buffer and service zones. The protected area is the domain over which a parks service has authority. Madagascar has traditionally used legislation to create different kinds of management (e.g., some parks are classified as strict natural reserves and others special reserves). A preferred course is to classify a special national resource as a national park, and to then define the areas for total protection, areas for research, areas in which tourists can visit, etc. as part of the management plan. This permits greater flexibility in an environment where legislative changes are extremely difficult to obtain.

We have learned that the "efficiency of law enforcement remains a crucial determinant of the conservation status of" biodiversity, and that "proper equipment, training, and compensation of parks staff still promise high payoffs in conservation of protected species..." (Barrett and Arcese, 1995:1081). However, we have also learned through analysis of historical spatial data of protected areas in Madagascar that the statute of protected area itself, even in absence of effective official deterrents, has slowed biodiversity loss, when compared to what has happened in the peripheral zones around these protected areas (Swanson, 1996b:33; Dufils, 1996:3-7, see Map 2 of Ranomafana National Park as an example).

4.1.3 The Buffer Zone

This falls within the protected area boundary. It is located on the outer perimeter of the national park or reserve, particularly in areas of high human pressure on the park. It is often somewhat degraded from human pressures. A buffer zone can be used for mutually agreed on sustainable natural resource management practices by peripheral zone communities (e.g., cattle grazing, farming, and beekeeping), but not for infrastructure development by local or private sector interests.¹³ The parks service itself

The term "buffer zone" can cause confusion. As used here, it differs from the UNESCO Man and the Biosphere Program where it was first developed. UNESCO's buffer zones are areas immediately adjacent to a protected area that have limitations and controls on use that are intermediate to those of the protected area, and the open use areas

may establish service zones within this area. No official buffer zones yet exist for any protected area, though new legislation before the Government of Madagascar would create these in several national parks.

4.1.4. The Service Zone

This also should fall within the protected area boundary. It can be located on the outer perimeter of the park or reserve or in some other well-defined area of the park. Tourism services could be located in this area (interpretation center, park management offices, tourist lodging and facilities). Here, ANGAP hopes to develop contractual agreements with private sector partners who will compete for the privilege of operating close to spectacular areas of the park. This will generate revenue from mid- to high-end tourist infrastructure through concession payments on a high impact tourist area. Madagascar law concerning national parks will need to be revised if such a service zone for tourists is to be put into place as this zone does not exist today. Such a modification would be fully within the rules established internationally by IUCN¹⁴ for use of national parks. ANGAP is currently obtaining title to land currently found within the peripheral zone, outside current park boundaries, thus giving ANGAP legal right to manage this on behalf of the State. When regulations permit, this will be placed within a newly defined buffer zone, within official park boundaries.

4.1.5 The Peripheral Zone

This is an area surrounding the protected area in which human occupation is expected. Peripheral zones have been spatially defined around most of ANGAP's principal parks and reserves (e.g., Map 2 of Ranomafana National Park). ANGAP would not have any direct jurisdiction over it. The exact size of the peripheral zone is still under discussion, but the definition found to be the least arbitrary includes all the *fokotany* (smallest administrative division) physically touching the boundary of the protected area. In some cases, this area is considered too large, and a smaller area needs to be defined. The peripheral zone is considered an essential part of the protected area management system in that this is the area from which much of the direct human pressures are exerted on the protected areas. As a front line of defense, a second buffer zone, it is here that initiatives to jointly manage protected area resources with local populations has the most promise for favorable results. It is here that private sector tourist infrastructure must be developed carefully not only to be economically advantageous to the local people, but not to have negative spin-offs for the protected areas which attracted them in the first place.

beyond the buffer. It was originally intended to be much more restrictive in uses allowed (e.g., no permanent habitations), than in practice has proven feasible (IRG,1992:48). UNESCO's concept of buffer zone is more closely related to what ANGAP refers to as the peripheral zone. A reason why the UNESCO buffer zone concept finally failed to disallow human habitation was because it is located outside the jurisdiction of the park. Defined within the park, restrictive uses by the peripheral zone communities is more easily realized. International Union for Conservation of Nature and Natural Resources.

ANGAP is aware that peripheral zones may become economic zones of attraction in the region and that attention must be given to the rational development of these areas. Without planning, random and uncontrolled development of gateway communities could diminish the appeal of the protected areas that provided the economic incentives that drew these people in the first place. In fall 1996, ANGAP took the lead to further the planning process by seeking a high-level workshop with the Ministry of Tourism and other concerned partners to generate legislation on development within this area.

4.2 The ICDP Concept

The basic doctrine (or hypotheses) of the ICDP approach states that if the socioeconomic interests of people living in peripheral zones of protected areas are addressed and sustainable alternatives identified, developed, and adopted, then these people will become a major factor in the sustainable exploitation of the natural resources of the area and in the long-term conservation of the adjacent parks and reserves. As a result of the review of the initial hypotheses, we believe people's needs must be addressed, but how these are addressed cannot be effectively done through ICDPs. One final conclusion of the question "Do targeted development activities reduce pressures on parks/reserves through changed human behavior?" (Swanson, 1996a) must be that "it is biologically unsound to base human needs, which must be assumed to grow, on the harvest of wildlife populations that will not grow" and that we must "decouple human needs from wildlife harvest" within the fixed size habitat protected areas (Barrett and Arcese: 1995:1077,1081). It takes a long time to change human behavior - particularly in the isolated rural areas where ICDPs generally work. Madagascar's ICDPs have not provided conclusive evidence that the conservation-development linkage can be made strong enough, with enough people, quickly enough, to have any real long-term impact on the basic problem of continuing biodiversity loss.

ANGAP fully endorses the concept that no park is an island; protected areas are connected to their surroundings in a myriad of ways: ecologically, socially, economically, spiritually, and culturally; and planners need to take a broad-based, multi-disciplinary, team approach to managing today's protected areas (Barzetti, 1993, p.50). The key to success for ANGAP will be how it determines its own specific role within this partnership.

We would emphatically agree that

ICDPs must be regarded as no more than short-term palliatives in a longer-term struggle to refocus attention and resources on parallel processes of rural development, poverty alleviation, and wildlife conservation. There is no substitute for broader commitment by government, external donors, and NGOs to solving these rural problems and to coordinate, if not necessary integrate, such efforts (Barrett and Arcese, 1995:1081).

This could be a direction that the second environmental program could take through its program approach, with emphasis on looking at larger regions in which specific protected areas are found. The conservation component of the ICDP in Madagascar will take off as the parallel parks and reserves network managed by ANGAP. The development component will split into different parallel efforts implemented by organizations with various specialities.

4.2.1 Lessons Learned about Type of Development

ICDP projects in Madagascar have provided several valuable lessons for future programs in biodiversity conservation. The following paragraphs summarize those which seem of particular importance to ANGAP and its future partnership roles with communities and the wider region around parks. Lessons for ANGAP's future development partners are also suggested.

We have learned that ICDPs, as designed in Madagascar for Environmental Program 1, were probably too complex, had too much money to spend in too short a time, and are not sustainable. We have learned that future investments of this kind will need to be more focused.

We have identified five types of development activities which do provide effective linkage between conservation and development (the ICD). ANGAP has come to refer to these activities as the *petite d* (small d) of its own involvement in development (ICdP) within the peripheral zone, as opposed to the *grande D* (big D) of development which will be led by partner institutions in the ICDP programs of the future. Two of these five development areas apply to the 10 parks and reserves with ecotourism potential. These five types of development could provide a principal focus for national parks program efforts oriented to the people living outside the borders of the parks and reserves. Other development for development activities (the big D) taking place within and beyond the peripheral zones of established parks and reserves should be implemented by independent agencies and NGOs who could collaborate with ANGAP, particularly in the peripheral zones, in assessing the environmental impact of such activities on the protected areas. Such development activities could be accomplished within the context of ICD programs orientated towards other agencies.

The five types of development activities with clear conservation linkages which clearly should be supported by the future protected areas program include:¹⁵

4.2.1.1 Ecotourism Service Development

Many of the most successful ICDP activities in parks over the past years were activities of the kind discussed here. The lessons learned from these case studies may be reviewed in Hypothesis Testing: Do Targeted Development Activities Reduce Pressures on Parks/Reserves Through Changed Human Behavior? (Swanson, 1996b).

All activities supporting ecotourism service development in parks and reserves and within their peripheral zones and regions are spheres of development activity for a parks program. Ecotourism development can provide an economic stimulus to economically deprived regions and lead to sustainable economic development in the peripheral zones. The economic benefit helps to raise the consciousness of associated people (local, regional, national) concerning the inherent value of these wilderness areas. Activities could include:

- C Town and city planning assistance in and around emerging gateway communities to reduce the danger of uncontrolled infrastructure development (i.e., Ranohira for Isalo, Moromanga for Andasibe, Ranomafana for Ranomafana, Joffreville for Amber Mountain) which would detract from the beauty of these sites.
- C Improving the quality and marketability of local crafts for sales to tourists.
- C Structuring ethno or cultural tourism activities in the peripheral zones to provide further sources of revenue and remove some pressure on the parks. An example would be the Bemaraha log canoe trips, led by local fishermen, up the Manambolo river, above the town of Bekopaka, to view caves and ancient tombs along the *tsingi* river cliffs.
- C Lodging, food and other services to provide additional income locally and regionally.

Even in the absence of appropriate infrastructure, the number of tourists visiting Madagascar protected areas has been growing dramatically since 1992, when record keeping started. In three national parks, the attendance has doubled each year from the previous year for three consecutive years. With improved park services, interpretation facilities, and park accommodations, ANGAP is optimistic that tourism will become an important factor in the sustainable conservation of biodiversity as well as contribute to the socioeconomic development of the peripheral zones.

4.2.1.2 Too Much Development?

We have learned of the real danger of too much development in the peripheral zones of parks and reserves. Too much, in the sense that continuous input of donor funds towards development activities that cannot be sustained in some manner, may in the long run do more harm than good when the funds run out. Expectations are raised which can never be fulfilled by local institutions after the departure of the project.

4.2.1.3 The Lack of Convention and Development: Multiple Operators for One Protected Area's Program

We have learned that multiple operators of individual ICD projects do not necessarily lead to good management of program activities. Within each Environmental Program 1 ICDP project, one operator has usually been involved with conservation, another with development (with local NGOs usually involved in the development area as partners). Experience has shown that in most cases, the two major operators could not develop a common program, but tended to operate two parallel subprojects in each region. This problem was most evident at Amber Mountain where WWF and CARE were involved, which led in 1995 to a divorce between the two institutions - with CARE asked to withdraw. This situation has also occurred elsewhere.

A reason for this is that management of an ICDP project, in areas which usually have very little other outside program support, is simply too complex. The lack of ability to focus and the desire to respond to the needs of local populations lead to programs which are difficult to manage. Maintenance of institutional identities and unique approaches also seems to contribute to this problem. Future design of ICD programs in Madagascar will be substantially different because of ANGAP's development into a national parks institution. This will promote a relaxation of the excessively tight interdependencies between institutions characteristic of Environmental Program 1 and should promote more efficient use of the specific expertise of NGO institutions (Brinkerhoff, 1996:1506). ANGAP will progressively assume management responsibility for all national parks and reserves in Madagascar over the next few years, replacing international NGOs that have been filling this role. During 1996, ANGAP expects to become increasingly involved in management of the Amber Mountain national park/reserve complex, and Ranomafana National Park, currently operated by WWF and Stony Brook, respectively. Most development activities in peripheral zones and will be implemented regionally by appropriate local and international NGOs and other institutions - frequently in partnership with ANGAP in the peripheral zones.

4.2.2 The General Need for Focusing, Prioritization, and a Sense of Scale

There has been reticence by the operators/field staff of some ICDPs to focus on establishing linkages between proposed development activities and the conservation principal objective: reduction of pressures. The monitoring system developed by the ICDPs, which was intended to show impact by program activities on behavior received low priority in terms of early staffing and implementation. One lesson learned is that M&E activities must be initiated at the beginning of any program activity and not halfway through when programs are already mobilized towards different objectives.

The SAVEM project developed hypothesis statements defining perceived linkages between proposed development activities and the conservation objective, to be tested through implementation and monitoring. Inducing people to change their behavior will be most successful when (1) there is a clear and direct link between the conservation objective and the project component, and when (2) the threats

to the resource base are direct and clear, not when they are caused by many actors for many reasons (Brandon and Wells, 1992:567).

In reality, SAVEM development activities have rarely been this focused or results-oriented. Development operators have been able to justify every kind of development activity imaginable, showing at least an indirect linkage to conservation objectives. In spite of trying to encourage operators to identify those activities which were, nevertheless, more directly linked, in its coordinator role, ANGAP had limited success in influencing development operators to a more focused treatment of the development for conservation theme.

“The end of (the development activities of) ICDPs is not development,” but “a means to achieve conservation objectives” (Brandon and Wells: 1992:267). We have learned that given limited human and financial resources, time, and scale of impact, clear prioritization must take place. In most cases, there appear to be too many activities, with too few people (sample) to have any hope of impact in the foreseeable future. In many cases, the expected impacts have not been clearly stated, which does not permit the necessary targeted monitoring. Where strong positive tendencies towards improved natural resource management of the kind desired takes place, it is also clear that the reasons for this cannot be attributed to a single activity. It is the synergistic effect of several good activities which seems responsible.

Experience has shown that the "C" and "D" components of ICDP projects have operated independently of each other, like separate subprojects. The “D” has tended to be unfocused regional rural development, although according to Environmental Program 1 plans, we had hoped for actions within a more clearly defined peripheral zone around the parks and reserves. While this seemed particularly acute in some ICDPs, it was generally true of all six SAVEM ICDPs and those funded by other donors as well (Andringitra, Marojejy, Bemaraha). While fully agreeing with the need for and importance of rural development in general, this approach was not sufficiently focused towards the actual protected areas, the initial *raison d’être* of the ICDP activities. Should a similar program be implemented again, this experience would suggest that more focused rural development activities need to be conducted in defined peripheral zones of parks and reserves, and that this should be coordinated, managed, and implemented by public and private institutions with proven expertise in such activities. Local park staff personnel can be assigned to community relations in a partnership for program planning and strategy. An umbrella coordinating central organization (whether operator or public) is probably not an efficient institutional arrangement to implement such activities.¹⁶

During the Madagascar Environmental Action Program for the next five years, a regional partnership approach will be taken - without a national coordinating agency.

Because of the wide range of conditions among the different national parks and reserves under ANGAP's jurisdiction, it is clear that the same approach cannot be applied everywhere. Some reserves are isolated and will rarely, if ever, be visited by tourists. However, many people living around the reserve may be exerting pressure. Here protection and local management options are more the issue and approaches with local populations must be different. There are other isolated reserves where low population density results in little pressure on the resource. Yet there are about 10 national parks and reserves which are both under heavy pressure from local populations and are also important (potential) tourist destinations.

4.2.2.1 Park Entrance Fee Revenue Sharing and Micro-Project Financing

ANGAP returns 50% of all tourist-generated park entrance fees to local communities of the parks visited, thus realizing a direct link between conservation and development and creating new management partnerships between local communities and the concerned park (Peters, 1994). In Isalo National Park, an estimated \$40,000 will be given to peripheral zone communities in 1997 alone. This return is an investment in goodwill for the future of the park.

The microprojects funded from this tourist-generated revenue represent an important means for an estimated 10 national parks and reserves to contribute to the socioeconomic well being of their peripheral zones. Microproject activities are chosen by the peripheral zone populations themselves. The only condition placed on the use of these funds is that activities not be harmful to the environment and that they be community (not individually) focused. They have included helping communities set up their own tourist camping grounds, repairing elementary school infrastructure, providing health care workers, and setting up village cereal banks (Swanson 1996b). Recipients unquestionably have made a direct linkage between the park's existence and the economic benefits they have received. The number of people benefiting in this way is expected to grow over time. A major issue here is the definition of the limits of the peripheral zone and who, therefore, should be recipients of these funds. An emerging definition targets all those villages/communities which fall within the smallest administrative unit (*fokontany*) actually touching the limits of the park or reserve.

Entrance fee revenue for ANGAP operations and peripheral zone community microprojects is sustainable funding being generated by the system. When donors depart, one still expects the tourists to come, even increase, and for this revenue to continue. It is important that ANGAP continue to give this 50% back to local communities and build on the base of good will which has been initiated by this action.¹⁷ ANGAP may seriously consider using this money as a trust fund for the communities -

The only danger is that, when compared to the donor's nonsustainable funds being pumped into a peripheral zone during an ICD project's life, the park entrance fee money is very small. When the big money is gone, people may not be content with the limited amount of funds coming from the entrance fees and may hold the park service

perhaps as a savings and loan program similar to those initiated by other specialized institutions.¹⁸ The money would serve as a guarantee against defaults and also provide a source of funds for loans. This could greatly expand the impact of the revenue shared with the parks.

4.2.2.2 Environmental Education

All environmental education activities among populations within the peripheral zones and the larger regions are important areas for ANGAP involvement. This could include publicity efforts of ANGAP, efforts to communicate environmental themes to a local audience, and bringing school children and families into the parks and reserves for environmental training. According to ANGAP statistics for 1995, 50% of total park visitors (36,720 people) were Malagasy, of whom more than half (56%) were school children brought in by ANGAP under a program called green classes (Swanson, 1996a:20). Environmental education would include assisting with curriculum development in local schools, as currently done by WWF in its Amber Mountain National Park program.

It is important for park ecotourism departments to communicate clearly the importance of the economic impacts of the above two development activities both locally and regionally to raise public support for conservation of these national parks and reserves.

4.2.2.3 Targeted, Small-Scale Activities Directly Linked to Top Ranked Pressures on Park

ANGAP, within the defined peripheral zones around its parks and reserves, will need to focus attention and some financial resources on targeted, small-scale activities which could have a direct impact on reducing identified pressures on the park. Communities can also channel their portion of park entrance fees, where available, to such activities as reforestation, support to intensive farming systems, agro-forestry, and contour farming.

4.2.2.4 Community Natural Resource Management Programs in Peripheral Zones

ANGAP will want to continue to be actively involved in promoting community natural resource management planning within defined peripheral zones around its parks and reserves. In some cases, this will mean defining buffer zones outside current park limits which will eventually be incorporated into the legal park boundaries, which permit community access to certain resources (*zones d'utilisation contrôlée*). In other cases, this will mean defining controlled occupation zones by helping communities/villages obtain long-term contractual (concession) rights to land areas around their homes,

responsible for the withdrawal of the donor's funding.

An example of this is the Mutuelle d'Épargne et de Crédit (MEC) of the Zahamena Special Reserve (Swanson, 1996:58-63).

based on mutually agreed on sustainable natural resource management uses (*zones d'occupation contrôlée*). The purpose is to limit open access to new lands, currently a primary pressure on remaining wilderness areas. ANGAP would not itself implement such studies or activities but would be a facilitator, animator, and possibly channel funding to partner private or public institutions capable of implementing such activities.

4.2.2.5 Other Development Lessons Learned

What about the rest of the development efforts taking place - the big D of ICDPs ? Adult literacy? Animal husbandry? Health services? General rural development? Roads and bridges? The answer is that a national parks system cannot take the place of the ministry of agriculture, education, or health in providing these services. Socioeconomic and rural development activities are important, but we do not believe it should be the responsibility of a national parks program to run or coordinate them. Private sector and government agencies with proven expertise in these areas should lead in these efforts in close collaboration with ANGAP in the peripheral zones of parks and reserves.

4.2.4 Transversality

An important of these is the concept of transversality, a term frequently used in the Environmental Program 2 program approach. This author has visited most of the 13 ICDP programs implemented over the past few years by various donors in Madagascar. Many of the same development problems are being confronted by the various programs with no apparent opportunity to learn from the experience of others in the country or to work together on solving common problems.

To give a simple example, almost all of the protected areas have found that beekeeping is an environmentally friendly activity which has great potential in the peripheral zones of most parks and reserves. People with traditional beekeeping or honey hunting interests are potential stakeholders in this. Yet, one also finds that there is actually extremely limited expertise or vision on how to develop such an activity. Hives commonly used may not be appropriate to the socioeconomic levels of the people concerned. The commercialization aspects or the sustainable supply of materials side are often ignored until these problems develop, at which time the project is usually about to end; often the activity ends up a failure for lack of experience or thorough planning.

This situation leads to another lesson learned. Successful program activities of ICDPs should be grouped into activity-classes, and professionals in each of these should be given the responsibility of supporting and implementing these across the different regions. Rather than one development operator trying to do something in many different activity areas (often without available expertise), responsibility in developing these activity-classes should be given to independent contractors with proven expertise in

these fields. Using the example given, one group or individual could be responsible for implementing beekeeping activities.

What other activity classes could be identified as particularly successful during Environmental Program 1 which merit support of this kind? Candidates include (1) on-farm, contour, hillside cropping systems extension; (2) rural savings and credit programs similar to the MEC of Zahamena; (3) community granaries focused on food security; (4) environmental education orientated towards rural schools; (5) small farmer agro-forestry initiatives oriented towards individual ownership; (6) *raffia* crafts development for tourists; and (7) small farmer vegetable gardening linked to hotel needs.

4.2.5 The Direct Pressure Agent

Targeted development activities are rarely, if ever, truly targeted. Usually, assistance staff work with people and households willing and interested to listen to them, hoping that this will trickle over to the people who are causing the direct threats on the protected area biodiversity. This process has not been successful. Those keeping improved bee hives under beekeeping programs are usually not the same people who are hunting the honey in the forests. Those raising chickens, pigs, and livestock with project support around Amber Mountain are not the same people who are growing *khat* (a plant stimulant) under the cover of the park forest trees, although this was the hypothesis given which would reduce this pressure.

4.2.6 Village Groups

Another recurring theme in many ICDPs has been the difficulty of initiating village associations or groups with whom the program could develop development efforts. There is widespread reaction and mistrust of any such groups which are created and disappear soon after. Most ICDPs, in early years, were able to create many such groups, based on the recipients perceived (correct) belief that this was the way to receive project benefits. But such groups, once the money was distributed, usually quickly disappeared. It makes no sense to create a group in the absence of a real need. It is often only after individual households find that a specific need cannot be met in any other way, that they begin to show genuine interest in a collective response to solve a specific problem (e.g., cattle vaccination in Bemaraha, commercialization of honey in Andranomena, purchase of feed for chickens and commercialization in Amber Mountain). Community-initiated needs require a collective response which leads to the formation of a group which may become sustainable. Such needs draw the right kind of people together. Outsiders to a community should only help facilitate this process by providing information on available resources, rather than being too proactive in creating them in the first place.

4.2.7 It Takes Time to Change Human Behavior

Though already mentioned in other contexts, a clear lesson learned is that some donors continue to have unrealistic expectations in how long it should take to observe significant impact of their environmental activities. Most ICDPs have only been underway for about 3 years, which is an insufficient time to conceptualize, create field teams, develop confidence of rural populations, implement programs, and realize changes in long held destructive behavioral patterns among rural populations. The environmental program was conceived as a 15-year program, and only 5 of these years have past. Major changes in program support by the sixth year do not respect commitments made earlier for continued support. Consistency, commitment, professional guidance, and financial support - all are required over the long term in targeted areas and targeted institutions if investments are to pay off in sustainable programs.

4.2.8 Lessons Learned about the Kind of Conservation

If we review the experience of the past 5 years in Madagascar and ask ourselves “How have ICDPs actually interpreted their conservation mandate?” we learn that, as it concerns the park or reserve itself, most, if not all, have largely interpreted this as park delimitation efforts, park boundary patrolling, and basic and applied conservation research. This is raised as an issue, however, because there has been an almost total lack of serious park planning and development of management strategies. One of the first conservation efforts of an ICDP operator should be to develop park management plans, updated annually, with proper zoning and development of proper infrastructure, including, where appropriate, tourist trails and facilities. These plans should justify what research (basic and applied) needs to be done, and when. This was not the case.

The “C” of many ICD projects has tended to stress conservation in a more rural development sense. Agro-forestry, watershed management, and soil conservation activities are all forms of conservation. But these are all essentially peripheral zone activities. While these are important aspects of conservation and must be addressed as part of a regional approach for development activities (the “D” of ICDP), the most important “C” of all was frequently slighted or even neglected. Conservation, and its sustainability, of the biodiversity found within the borders of the protected area is the essential “C” as we understand it, and the specific mandate as given to ANGAP by the Government of Madagascar. This is not to suggest that ANGAP should not be concerned with, and actively promote, applied research in understanding the dynamics of ecosystems around the parks and reserves of which the latter may be an important component. The economic value of these parks and reserves within a more regional context is essential to understand so that the attention of the proper authorities (regional and national) can be drawn to this value and that partner institutions can be directed towards conservation development themes which need to be addressed.

We have learned that the initial assumption, that local and international NGOs (WWF, CI, CARE, VITA, and UNESCO) would be capable of developing professional protected area management plans,

was misplaced. SAVEM projects began in 1992-1993. By the end of 1994, no ICDP operator, except for Ranomafana National Park (Stony Brook), had yet developed a comprehensive park management plan, considered to be the essential building block for any program, where development would need to serve the conservation objective. It became clear that operators were not giving this aspect of the program high priority. Again, except for Ranomafana, not one protected area operator had included any professional park management and planning specialists as continuing input in their programs. While five of the six SAVEM project ICDPs have significant tourism potential, ecotourism services until very recently (in 1995) were neglected in most. Park infrastructure and trails were not developed or maintained. Park and trails signs are lacking in some SAVEM ICDP locations with high tourist potential. Tourists in all major parks have begun to complain about inappropriate behavior on the part of park guides, furnished by local independent, guide associations, another product of ICDP experimentation.

ANGAP has learned from visiting park consultants from various parts of the world that some of the best national parks in the world (ones which are both financially sustainable and generate revenue for the parks network) are operated with less money each year than what donors are currently spending in individual national parks and reserves in Madagascar. What do ANGAP and the protected area program have to show for it? In many cases, very little. What kind of conservation sustainability has been built into the system? None. In fact, ANGAP will inherit by the end of Environmental Program 1 an inventory of capital goods (e.g., buildings, used vehicles, and computers) without any means of maintenance or replacement. It will have, because of massive donor-supported development activities in peripheral zones, the raised expectations of peripheral zone populations for continued assistance which may well be terminated or greatly reduced at the end of Environmental Program 1 ICDP activities.

By mid 1994, ANGAP become very concerned about this situation and tried to develop specific responses to it. As ANGAP began to focus on its potential role as Madagascar's national parks service, it redefined its short- and long-term training plans to include parks management and operations work in the ICDP.

Major components of the next five year environmental action plan for Madagascar (Environmental Program 2) are:

- C National parks and reserves and ecotourism.
- C The management of Madagascar's national parks and reserves to ensure biodiversity conservation.

- C Financial sustainability. The belief that conservation must begin to pay for itself has been adopted. Setting up a trust fund and ecotourism development are considered important areas for developing this sustainability.
- C Continuing support from donors and the Government of Madagascar is essential through Environmental Program 2 and Environmental Program 3 as serious efforts are made in this direction.
- C The need for support by local populations is essential for the long-term sustainability of these wilderness areas.

5.0 OTHER LESSONS LEARNED

5.1 The Not-for-Profit Association as Park System Manager

The past 4 years' experience has confirmed that a private, not-for-profit association such as ANGAP works more efficiently and effectively than a government bureaucracy in coordinating a national parks and reserves program. We believe experience in Isalo during the next year will show that this extends to direct management as well. Environmental Program 2 September 1996 Paris donor and Madagascar government talks on the Government of Madagascar's future support to the environmental program once again confirmed the wisdom of this institutional model for such parks management.

5.2 Sustainability and the Depreciation Question

If sustainability of Madagascar's national parks and reserves is considered, in itself, an important objective and part of the strategy to develop viable environmental management, then it is essential that ANGAP move towards financial sustainability for park and reserve management. As Havenga noted:

There is specific financial management for nature conservation activities. It is very important to be aware of this. (Nature conservation financial management) is not like other forms of financial management in the private sector where the profit motive rules. Building a healthy financial base for conservation activities means sustainability; that is, money which enables you to fund and maintain activities of conservation. If someone gives you \$20,000 once, and you use it without generating income, it is not sustainable; but if you can generate \$5,000 every month, and it is enough to cover all your expenses, this is sustainable (Havenga, 1995:5).

Donors should make sure that essential depreciation costs are actually put aside by the institution they are supporting each year (and invested, through ANGAP's future trust fund, for example) to cover the replacement costs and maintenance of essential infrastructure and materials. This is a key item to monitor closely. Otherwise donors are funding capital investments which a local institution can never expect to maintain or replace. When maintenance and repair funds are not available, one quickly sees the structural deterioration so evident in many developing countries. To put aside and invest depreciation costs is financial discipline which a private institution such as ANGAP must follow if it is to become sustainable.

5.3 Multiple Donors for One Protected Area

We have also learned that multiple donors pose problems for coordination and management of development activities in a peripheral zone (e.g., ANAE, PACT/SAC, FID, Peace Corps). Different

groups frequently seem to compete for activities with village groups or the rare community organizations - each trying to out-give the next group. There is a critical need to coordinate the activities of all such groups in areas so as to avoid such situations. This will be one of the most difficult challenges for the program approach being proposed for the second environmental program donor support in Madagascar.

Several significant challenges for ANGAP lay ahead. These will determine the success or failure of developing a sustainable conservation approach for the country's parks and reserves and remaining unique biodiversity.

5.4 Delegation of Authority

True delegation of authority within ANGAP, from top to bottom, must take place. Decision frameworks must be developed so that obligations and freedom to make decisions at each level are clear and respected. Top down micromanagement and over-riding of delegated decision-making responsibilities of those lower down in the hierarchy remain a serious problem and must be strongly resisted. Park managers must be given real authority to manage all aspects of their parks and reserves, without central interference. Monitoring and evaluation should be based on agreed on annual objectives within the organization. Key senior ANGAP personnel, having come out of the public sector, will need to overcome their inherent desire to resist delegation of such authority.

5.5 Loss of Focus

Success draws attention. There will be a desire by both donors and government alike to place on ANGAP duties which could well distract it from its primary mission - resulting in loss of focus and eventual institutional decline. Rather than doing this, donors and government might consider creating other institutions of this kind which can develop expertise in new areas.

5.6 A Tempting Take-Over Target

If ANGAP moves towards sustainability, this means ANGAP is actually making money and managing it in a fiscally responsible manner. This will also attract attention in a financially poor environment. ANGAP must be protected at the highest levels of government (National Assembly) by recognition of its mission statement and its institutional status as a not-for-profit association (hybrid NGO). Rather than moving to control this source of income, government should consider creating similar institutions capable of removing some of the financial burden of central government in various other areas of management. This would be consistent with national policy for decentralization and empowerment of other sectors of the economy.

5.7 Creating Partnerships

Donors will be channeling significant funding into the development sector over the next years and ANGAP will be tempted to obtain a piece of the action. ANGAP's challenge will be to remain focused on park and reserve management and ecotourism development and develop partnership and advocate relationships with various government, NGO groups, and peripheral zone groups capable of assisting local populations in socioeconomic development activities. In the same sense, ANGAP must understand the donor group's programmatic approach to development during the Environmental Program 2 and establish links which have cross-cutting advantages for ANGAP to other sectors. For instance, development of improved roads in the southern part of the country (e.g., 50-km road to the Andringitra protected area or to Ranomafana National Park) would strongly influence the ecotourism market and also provide an economic stimulus to the region.

5.8 Technical Assistance

USAID Madagascar has been the principal donor responsible for funding the institutional development of ANGAP. Starting in 1997, USAID is significantly reducing funding to the principal national institution which is assuming the greater burden over the coming years. This is an extremely serious and urgent issue.

ANGAP will not be receiving the technical assistance it specifically requested or urgently needs at the central park system level during a key, pivotal period of its development over at least the next 18 months (January 1997 - June 1998), the so called transition period between Environmental Program 1 and Environmental Program 2. USAID Madagascar, without a technical end-of-program needs evaluation, has determined that it can no longer provide more than one long-term advisor to ANGAP during this time. Yet this young and untried institution is about to move into an extremely difficult transition period in which it will be taking over direct or indirect management of a network of 44 parks and reserves, receive greatly increased donor funding for its programs, and rapidly expand its staffing levels. Without increased long-term technical support, ANGAP risks serious problems and perhaps institutional collapse, or at best, loss of its mark of excellence and institutional vigor earned during Environmental Program 1. Donors should be challenged to realize that institutional sustainability is not achieved in a few short years. Major funding gaps can result in serious harm to significant accomplishments and investments already made.

5.9 ANGAP's Board of Directors

The ANGAP Board is weak, which represents a great danger for the organization's future. As ANGAP seeks, in the coming months, to increase private sector representation on its governing board, while reducing public sector/political representation, it will need to look for much stronger, more active

individuals. Powerful and wealthy private individuals of national importance with a commitment to the environment must be drawn to the board. These people must be active nationally and internationally in seeking funding for the institution, in using their influence to changing national policies which hinder ANGAP's effectiveness. Board involvement is important if ANGAP, an independent association, is to be kept on track in its commitment to conservation first and foremost on behalf of the people of Madagascar. It needs to be actively engaged in setting policy for the protected area program consistent with the objectives of the State, and supervising its delegated chief executive, the Director General, in implementation of the program.

The board members must be named individuals - not representatives of organizations. The board must become much more active in oversight of ANGAP itself, not with executive functions, but with strong policy oversight control.

5.10 Financial Sustainability of Parks Network

An often neglected issue in seeking sustainable management of biodiversity is financial sustainability of the parks network itself. A challenge for ANGAP will be to approach management of its network of parks and reserves in a business sense - sound business planning which includes thoughtful timing of infrastructure investment and attention to depreciation costs. It will be a challenge for ANGAP to move away from a program almost completely dependent on foreign donor support to one in which assets are carefully managed, capital expenses are kept within the organization's budget plan, maintenance and depreciation costs are considered, and control of the quality and quantity of personnel hired remains high.

Associated with this issue is fiscal responsibility. ANGAP has not yet made the commitment to complete transparency in its accounting systems. The tools are in place. Until this is achieved, ANGAP will have difficulty in overcoming the inherent suspicion of all those who might like to support biodiversity conservation in Madagascar through an organization like ANGAP - but won't - until accounting is completely transparent and information widely and freely shared in this domain.

5.11 Conclusions

ANGAP is in a position of providing other Malagasy institutions a model of how to operate in a new manner, where quality and service is important, where business and operational plans and sound financial feasibility studies are the norm. We are firmly convinced that activities planned for Madagascar national parks and reserves will serve as motors for the economic development of some of the poorest regions of the country - something of central importance to Madagascar's politics of regional decentralization and stimulation.

National parks are integral parts of the assets, economy, and attractions of the region's in which they are situated. Where these national parks provide income, the region clearly should benefit financially and economically. Formulae for the flow-through of such benefits will be negotiated (revenue sharing). A common vision of a system of national parks should be developed that will make an important contribution to nation building while earning foreign exchange, providing jobs, and creating business opportunities for neighboring communities (Robinson, 1995:3).

The experience of the past 5 years has strengthened the conviction that the socioeconomic interests of the people living around parks and reserves (and sometimes within) must be adequately addressed if the conservation goal is to be attained. The people and the nation itself must truly see their economic well being linked to the continuity of these areas of wilderness and biodiversity. Such linkage has only begun to be realized. However, it is equally evident that a focused, professional parks institution is also required if Madagascar's protected areas are to be conserved and managed as places of preservation, education, recreation, and contribute to the development of peripheral zone communities and to regional and national economies into the next century and beyond (from ANGAP's mission statement).

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